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THE NOMENCLATURE

OF

SCAPULO-HUMERAL DISLOCATIONS.

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THE NOMENCLATURE

OF

SCAPULO-HUMERAL DISLOCATIONS.

THE nomenclature of the varieties of dislocation at the scapulo-humeral articulation, has, from the earliest ages of surgery, been one of those questions which have been very frequently brought under the notice of the profession. This has been the result, partly of the importance of the accident itself, and of the interest attaching to it; partly of the difficulties which occasionally present themselves in the diagnosis and treatment of the injury, any mistake in either being almost certain to be followed by grave and permanent bad effects.

It is, however, very remarkable that up to this day the varieties in relative position which (under varying circumstances as regards either the force or direction of the dislocating cause) the articular surfaces may assume, have not yet been thoroughly determined.

The nomenclature, and even the very number of possible dislocations to which the shoulder-joint is liable, are still undecided. Such being the case, any anatomical facts which can be made out regarding the relative position of the articulating surfaces will tend in the direction both of simplicity and precision.

Before entering on these special anatomical points, the briefest possible historical sketch of the more important previous classifications of these injuries is required.

All of these will be found to group themselves under two heads,—

1. *Surgical*.—These, though vague and inexact, are convenient, and for all merely practical purposes are probably accurate enough; the distinctions between the various kinds are very general, and are based upon broad views of the relation in position of the new situation of the head of the humerus to its old seat. Adverbs of position are used, as “forwards,” “backwards,” “outwards,” etc.

2. *Anatomical*.—These are minute to a fault, complicated, aiming at an accuracy which is indeed splendid in theory, but in practice is suited rather to the post-mortem theatre than to the surgical

waiting-room. The type of this class is the division of the present French school, headed by Malgaigne, and in it the varieties are differentiated and named according to the position held by the head of the humerus and its relation to the various processes of the scapula.

Surgical Classifications.

Hippocrates lays special stress only on the dislocation into the axilla. Celsus describes two varieties: 1. Into the axilla; and, 2. Dislocation forwards. Galen speaks of dislocation forwards as being very rare, but adduces a case or two. Paulus Ægineta describes three varieties: dislocations downwards, inwards, and outwards.

In later times we find that Ambrose Paré describes four varieties: upwards, downwards, forwards, and outwards; and he takes special care to tell us that a dislocation *backwards* never occurs. Richard Wiseman allows one form of dislocation only, that into the axilla, though he has occasionally found the displaced head in front, under the pectoral muscles; but he regards the latter position as probably only secondary to the first, the result, either of a double injury, or of attempts to reduce the bone.

In 1723, J. L. Petit distinguished four varieties; and his descriptions have more anatomical exactitude than can be found in those of any of his predecessors. The varieties are:—

1. *Inwards*, into the axilla.
2. *Forwards*, under the pectoralis major, between the coracoid and the clavicle.
3. *Downwards*, on the under surface of the scapula.
4. *Backwards*, under the spine of the scapula at the root of the acromion.

The great classical authority of the old French school, Boyer, adopted the following division of Desault:—

1. *Downwards*, on the inferior border of the scapula.
2. *Inwards*, between the subscapular muscle and fossa.
3. *Upwards*, behind the clavicle (very rare, and always secondary to one of the two preceding ones).
4. *Outwards or Backwards*, between the infraspinatus muscle and fossa (so rare that he did not know of a case).

Chelius, whom we may take as the representative of the German school, has the following division:—

1. *Downwards*.
2. *Outwards*, always primary.
3. *Inwards*, often primary, usually secondary.
4. *Inwards and Upwards*, always secondary.

As the most representative examples of the English school at two periods, we may take Cooper and Syme. Sir Astley Cooper has four varieties, three complete and one partial.

1. *Downwards and Inwards*, usually called into the axilla; in which the head of the humerus rests on the inner side of the inferior costa of the scapula.

2. *Forwards*, below the pectoral muscle, where the head of the os humeri is placed below the middle of the clavicle, and on the sternal side of the coracoid process.

3. *Backwards*, where the head of the bone can be felt and distinctly seen forming a protuberance on the back and outer part of the inferior costa of the scapula on its outer side.

4. *Partial*, in which the head of the bone is found resting against the coracoid process of the scapula on its outer side.

Syme has three varieties substantially similar to those of Cooper, *downwards*, *forwards*, and *backwards*.

In looking at all these classifications, we cannot fail to remark the marvellous discrepancy which exists between some of them. To what is this to be ascribed? Does it depend upon inaccurate observation on the part of the authors or of some of them? Or does it not rather depend on the inadequacy of the terms used, especially of such words as "forwards," "downwards," etc., for *distinctive* designation?

When we remember the great mobility of the scapula upon the trunk, and the normal obliquity of the direction of the glenoid fossa, we cannot wonder at the differences of the adverbs used to express relations of parts, which relations in all probability were really the same, but viewed under different conditions of position of either the trunk or limb.

It was this want of precision in terms which made the modern French school, with Malgaigne at their head, adopt a nearly new system of nomenclature, which, for the sake of brevity, and in consideration of its special basis, I shall call the *anatomical*.

Before leaving the surgical systems, one type had better be chosen for future reference and comparison; and of these by far the best, are the classifications (practically the same) of Cooper and Syme, which, without aiming at excessive refinement of accuracy, are at once correct, simple, practical, and comprehensible.

Anatomical Classifications.

Anatomical classifications are such as depend for their distinctive designations on the relation which the displaced head of the bone bears to the osseous prominences of the scapula or to the clavicle. The simplicity and accuracy of the description of the varieties of dislocations at the hip-joint, which by nearly universal consent have received their names on this principle, doubtless gave the cue to this plan; but as yet the shoulder has not been so successfully treated as the hip.

Malgaigne's classification is as follows:—

1. Dislocation into the axilla, containing three sub-varieties.
 1. Complete subcoracoid, common.
 2. Incomplete subcoracoid, rather rare.
 3. Subglenoid, rare.

2. Dislocation forwards.
 4. Intracoracoid, the most common of all.
 5. Subclavicular, rare.
3. Dislocations backwards.
 6. Subacromial, rare.
 7. Subspinous, very rare.

4. Dislocations upwards.

8. Supracoracoid (Malgaigne knows only two cases).

The classification proposed by Mr Flower, in his contribution to the most recent English system of surgery, is upon the same plan as that of Malgaigne, but modified in the direction of brevity and simplicity. It is as follows:—

1. *Subcoracoid; forwards and slightly downwards; common.* On to the neck of the scapula in front of the glenoid fossa, and immediately below the coracoid process.

2. *Subglenoid; downwards and forwards; rare.* Head of the humerus in front of the inferior costa of the scapula, below the glenoid fossa.

3. *Subclavicular; very rare.* To the inner side of the coracoid process under the clavicle.

4. *Supracoracoid; upwards and forwards; very rare.* On to the fractured coracoid process.

5. *Subspinous; backwards; very rare.* On to the back of the neck of the scapula, beneath the spine or posterior edge of the acromion.

Now, there are several points in these anatomical classifications which deserve notice, and perhaps reprobation.

1. The introduction of the *very rare* and practically useless variety "*supracoracoid*" upon very slight grounds. Malgaigne had *seen* one case only, and that a very doubtful one, as it was two and a half months after the accident when he first saw it. Two cases have been put on record in this country by Messrs Holmes and Prescott Hewitt, but in both the injury was complicated with fracture. In fact, it is almost impossible to conceive of such an injury without a fracture along with it, and thus such injuries ought rather to be classed under the head of dislocations with fracture, than of dislocations at the shoulder-joint properly so called.

2. The distinction between the subcoracoid and intracoracoid, which Malgaigne has made and Flower has omitted, is founded upon such minute differences, and so many cases are found intermediate, and cannot be classified under either, that it is *practically* useless, and, as I hope to show, it is even in a scientific point of view unnecessary.

In the table at the end of this paper, I have endeavoured to arrange, 1. The typical standard surgical division; 2. Malgaigne's; 3. Flower's modification of Malgaigne's, in such a manner as to show at a glance their mutual relations, and have ventured on adding another system of nomenclature based, like Malgaigne's, on anatomical relations of position, but which I cannot help thinking both simpler and more anatomically accurate.

In the following exposition of this plan of nomenclature, I intend to confine myself to the discussion of the purely anatomical points deduced from the normal anatomy and from dissections of old dislocations, and shall not do more than merely glance at one or two of the more important symptoms.

As I have never had the opportunity of dissecting for myself a recent or even an old unreduced dislocation of the humerus, I have had to avail myself of the dissections of others, as recorded in surgical works, especially of the classical treatises of Sir Astley Cooper and Malgaigne; but I have had ample opportunities of satisfying myself of the correctness of the main facts of my views as far as normal anatomy is concerned in them.

The principle of my plan of division, which I will call *Second Anatomical plan*, is, instead of considering only the relations of the humeral head as a whole to the various scapular prominences, to add to this an inquiry as to what *special portion* (ridge or groove) *of the humeral head is applied to what portion of the scapula?*

I must here premise a single word of anatomical description regarding the posterior aspect of the head of the humerus.

We need here consider only the *posterior* aspect; for in all dislocations of the humerus, except where complicated with fracture or lesion of the integuments, as in machinery injuries, the bend of the arm still looks (in general terms) forwards. We have, then, closely bounding the articular surface of the head, the anatomical neck (Fig. 1, A B C), extending backwards, downwards, and inwards. Immediately outside of and below the upper half of this line (A B), we find the two lower muscular facets of the greater tuberosity for the infraspinatus (E) and teres minor (F). Internal to the lower of these facets, we see, in all well-marked bones, a groove which I think has not hitherto met with the attention it deserves from surgeons (B D). This groove runs nearly parallel to the axis of the shaft of the humerus, and joins the anatomical neck (A B C) at B, at an angle of about 50° . This angle varies with the angle formed by the axis of the head with the axis of the shaft at different ages and in different bodies.

This groove I shall have to mention occasionally under the name of the posterior groove of the humerus.

Now, the great principle of my plan of nomenclature is, that in all forms of dislocation of the humerus in which the injury has been comparatively moderate, and the muscles only stretched, not torn, these two grooves, the *anatomical neck* and the *posterior groove*, are the parts of the humeral head which *alone* can be in contact with the scapula. Their being in contact with the scapula, then, gives us at once a distinction between the more usual and simple forms of injury and those of greater gravity and rarity.

But we have here the means of making yet a further subdivision, by asking on what part of the scapula do these grooves rest? I shall endeavour to prove that the anterior glenoid border, and the

upper inch or inch and a half of the inferior costa of the scapula, form a sinuous ridge (*a b c*, Fig. 2), on part of which the grooves

Fig. 1.

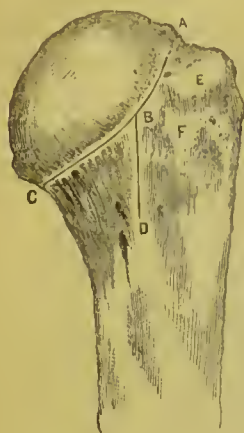


Fig. 2.



B

on the humerus rest in all the more ordinary forms of dislocation without rupture of the muscles; and we can thus make a division into two forms, under the names of *cervico-glenoid* and *cervico-costal*, according as the neck of the humerus rests on the line *a b* or *b c*. Let me now try to prove this.

If we take first a preparation of the normal shoulder-joint with all the muscles removed, but the capsule still entire; rupture or cut the capsule on its *inner aspect* (1), and protrude the head of the bone;—where is it arrested? We find that the articular surface of the head can be protruded so far that either the *anatomical neck* or *posterior groove* (2) can be made to rest on the *anterior border of the glenoid cavity* (*a b*). The outer portion of the capsule is then put on the stretch, and without further laceration it can go no further. I pause here to prove the two points in the preceding sentence that are in *italics*.

1. *Inner aspect* of capsule. Why inner? Because in ninety-nine cases out of a hundred, or even in a much greater proportion, the dislocation is either forwards or inwards, and the capsule is found to be ruptured from the lesser tuberosity to the insertion of the scapular head of the triceps. See Malgaigne, ii. 468.

2. The position of the *anatomical neck or groove*. This is proved in various ways:—(*a*) By dissections of recent dislocations. Malgaigne records one such, in which “Le col anatomique de l’humerus était retenu sur le rebord glénoïdien, et le trochiter appliqué sur la partie interne et inférieure de la cavité glénoïde.” And (*b*) By dis-

sections of old dislocations, as that dissected by Mr Key and recorded by Sir Astley Cooper.¹ In it "the head of the bone was thrown on the neck of the scapula, near the edge of the glenoid cavity, and immediately under the notch of the superior costa." This position of the head will be seen to involve the precise position of the anatomical neck that I have described. But still better marked is another description by Malgaigne of a dissection of a dislocation of old standing, which he figures in his atlas: in it, fig. 2 represents the portion of the humeral neck which corresponds to the glenoid border, and which has been grooved by the pressure; the glenoid border also shows the corresponding effect of the continued pressure.

A point connected with the symptomatology of humeral dislocations, which I think has never been very fully explained, will both give and receive elucidation here.

The obliquity in the direction of the well-marked groove (A B C) of the anatomical neck, if fitted on to the anterior border of the scapula, will explain, in a manner that nothing else will, the tendency which the elbow has to project from the side in all these more usual dislocations.

Take, however, another preparation of a shoulder-joint, but this time retain the special muscles of the shoulder-joint—by these I mean the supraspinatus, infraspinatus, and teres minor on the one side, the subscapularis on the other. This preparation will show much more clearly how it is impossible, so long as these muscles remain unlacerated, that the grooves (A B C D) can do otherwise than fit on to some part of the ridge of the scapula. In such a displacement, while the muscles are not torn, but only put on the stretch in a tolerably equal manner, some parts or other both of the groove and ridge that maintained in mutual contact. All dislocations of the shoulder which fulfil these conditions, *i. e.*, have any portion of the grooves (A B C or B D) in contact with any portion of the ridge *a b c*, I have ventured to include under the one great division of *Cervico-scapular*, and it will be found that far the greater number of these injuries, including all the less dangerous ones, in which the prognosis is favourable and the recovery good—all, in fact, in which the muscles have not been lacerated at all, or only to a slight extent—come under this general head. (*See Table of Dislocations.*)

But, I said, this is capable of a still further and a very simple subdivision, according to the position on the ridge of the different parts of the groove. Let us take these in detail.

1. Let us put the bones in position, the muscles being still intact, and place them so that the groove (A B) of the humeral neck rests as high up as possible on the glenoid border (*a b*). On looking at the relations of the rest of the head of the bone, in space, and to the scapular prominences, we find that it is the *dislocation forwards* of the surgeons, the subcoracoid of Malgaigne. In it, Malgaigne tells us, the coracoid impinges on the articular head of the humerus

¹ Eighth edit. (quarto), 1832, p. 299.

about its middle, a centimetre ($\cdot 39$ of an inch) inwards from the bicipital groove.

Again, still without rupturing the muscles, or displacing our groove from the glenoid border, let a slight change be made in the relative position of the bones: let now the posterior groove (B D) of the humerus rest against the glenoid border, and the difference of position can easily be accounted for by a difference in the direction or amount either of the original force which caused the injury, or the consecutive muscular displacement; looking at the bones in this position, we find the relations are precisely those of the *intracoracoid* dislocation of Malgaigne, *i. e.*, two-thirds or three-fourths of the articular head have now passed within the coracoid process, the tip of which directly overhangs the upper end of the bicipital groove. Besides the evidence gained from dissection of the normal parts concerned, the correctness of this view is, I think, strikingly confirmed by the following facts:—

1. The symptoms of intracoracoid dislocation, as given by Malgaigne, are very similar to those of subcoracoid, with this special exception, that the obliquity of the axis of the arm and the separation of the elbow from the side are much less marked in the former than in the latter. Now, this is very well explained (and no other surgeon has, as far as I can discover, ever attempted to explain these differences in the symptoms in this manner) if we remember the great obliquity of the anatomical neck in relation to the axis, which is the part involved in subcoracoid, and the comparative parallelism of the posterior groove (B D) to the axis, which is the part involved in the intracoracoid, a difference in direction equal to about 40° to 50° .

2. Cases such as the following, of ancient luxation, actually prove at least the occasional presence of this position. It is from Malgaigne (ii. 515). I quote a small portion only of the description of the preparation. "The greater tuberosity was separated from the head behind and above by a large deep sulcus, which above was not less than $\cdot 589$ of an inch (15 millimetres) in depth. The coracoid corresponded in position to the upper part of this groove, which indeed it seemed to have aided in forming. The head of the humerus was flattened at its posterior part, and played on a concave articular surface, hollowed out at one part at the expense of the glenoid border.

3. I now quote a case which, besides being interesting from some rare points in its symptoms, is a good example of a class of cases which I think go far to prove the relation of this posterior groove of the humerus, on which I have insisted so much, to the glenoid border in certain forms of dislocation. It is one of those cases where, in addition to the primary dislocation, there is a consecutive fissure of the head of the humerus. How is this fissure produced? Not by any peculiarity in the direct violence which caused the injury; not by any conceivable action of the muscles;

but by the sharp edge of the glenoid border being forced as a wedge against the posterior groove of the humerus. This is, I hold, the only rational manner in which we can explain such a complicated lesion, and in relation to the question of position, this case greatly impressed me.

A lad of about 16 years of age, spare, but tolerably muscular, was thrown to the ground with great violence on his right shoulder in a playful scuffle, and while down, was unavoidably trodden upon by the others.

When I saw him, about an hour after the injury, his shoulder was very much swollen and painful. The arm lay by his side, and the elbow was *slightly* separated. The head of the humerus could be felt most distinctly in its new position, immediately below the coracoid, but further *inwards* and forwards than is usual in dislocations forwards. The contour of the shoulder was not much changed, the deltoid less flattened than usual, and the great tuberosity could be felt to be not much out of its normal position, but certainly at a greater distance from the lesser tuberosity than usual. In fact, the breadth of the upper end of the humerus was increased. The lesser tuberosity was remarkably prominent, considering the amount of swelling, and its outer edge was felt under the skin to be sharp and defined. The most curious and characteristic symptom—one which I had never seen before, or read of—was a puckering of the skin just outside of this edge of the lesser tuberosity. The skin was actually drawn inwards as if nipped or bitten from below, forming a very evident dimple with puckered edges.

The diagnosis was made that this was a dislocation forwards, complicated with a longitudinal fracture separating the greater tuberosity from the head and the lesser tuberosity, though, owing to ligamentous and muscular attachments, the displacement was not great. This accounted for the position of the head, and its greater apparent breadth, while at the same time the shoulder was not flattened. No evidence by crepitus, shortening, or otherwise, of any absolute separation of either fragment from the shaft could be obtained.

The dislocation was easily reduced under chloroform by the heel in the axilla, and the curious puckering of the skin at once disappeared when the head was extricated from its abnormal position, though the portion of skin involved became a centre of intense ecchymosis. The case has hitherto gone on most satisfactorily. The fracture has united with no deformity, except the slightest thickening of the head, and motion at the scapulo-humeral joint is now (four months after the accident) almost normal. The position of the groove (ABC) of the humerus on the edge of the groove in dislocation explains in a most satisfactory manner the causation of those not uncommon, but hitherto rather inexplicable injuries, I mean fractures of the anatomical neck of the humerus.

Again, there is a third mutual relation of our posterior groove and neck of humerus, and the sinuous scapular ridge which may be present without any rupture of muscles. This is when some part

of the line (A B C) is now in contact, not with the anterior glenoid border, but with the line (*b c*) on the upper edge of the inferior costa, or axillary border of the scapula. This is the *dislocation downwards* of the surgeons, the subglenoid variety of Malgaigne—my *cervico-costal*.

In proof of this I may adduce the following considerations,—1. If we lay the head of the humerus in the position defined by Syme, *i.e.*, resting on the neck of the scapula, over the origin of the long head of the triceps, the neck corresponds to the edge. 2. One of Sir Astley Cooper's cases, recorded in p. 286 of his eighth edition, defines pretty accurately this position of the head. It lay on the inferior costa of the scapula, while the supraspinati and infraspinati were stretched over the glenoid fossa, the teres minor was little affected, and the subscapularis was slightly lacerated. 3. This is specially confirmatory of my view. Malgaigne, with all his love for an exact nomenclature, states (op. cit. 502) that, even so long ago as the year 1836, he had noticed that, between this form of dislocation (his subglenoid) and the preceding one in his division (his subcoracoid), there existed intermediate shades, the humeral head being detained at distances below the top of the coracoid, varying from two to three or four lines; the distance being determined in each case by special circumstances, such as the position of the rent in the capsule, the amount of consecutive muscular action, and the like. Malgaigne does not by this explain, or attempt to explain, why all these intermediate shades of his, though varying in position, are all on the same, or nearly the same, vertical plane. This can be explained, I hold, by the fact which I have been trying to make out, namely, that in the cases where the proper muscles of the joint are not completely lacerated, *they must keep the neck and posterior groove of the humerus* (one or other of these) fixed on some point of a sinuous, but still tolerably vertical line, *i.e.*, the *anterior edge of the glenoid continued into the upper inch of the inferior costa of the scapula*.

So far, then, we have an anatomical bond of union in this relation between the neck and groove and the scapula, which includes all the more ordinary dislocations of the humerus, all those in which the violence of the dislocating cause has not been very great, or the displacement excessive; and the name, common to them all, of *cervico-scapular*, if not very euphonious, has the merit of being both simple and expressive of this anatomical fact. But we have, again, another subdivision based also on anatomy, according to the position which, as we have already seen, the neck or posterior groove may take on the sinuous scapular line.

When fitting on above the lower corner of the glenoid (on line *a b*), *cervico-glenoid* will include the subcoracoid and intracoracoid of Malgaigne, the dislocation forwards of the surgeons; when fitting on below that corner (on line *b c*), *cervico-costal* will correspond to the subglenoid of Malgaigne, and the dislocation downwards, or into the axilla of the surgeons.

So far for the more ordinary dislocations; but this method of nomenclature applies with even greater simplicity and anatomical accuracy to the other rarer varieties in which the displacement is more excessive.

Dislocation backwards of the English surgeons is a very rare injury, and includes Malgaigne's two varieties of subaeromial and subspinous.

Such displacements are generally the result of very severe injuries, and the exact position of the head of the bone varies much in different cases.

Great discrepancy exists in the accounts of various authors regarding the length of the limb, as to whether it is shortened or elongated. This is explained by the correspondingly great variety in the positions in which the head has been described as lying in the various cases; and if the point which I now wish to prove be allowed, this various length is exactly what, anatomically speaking, we should expect; for *all* the cases of dislocation backwards have this one common character, that the *neck and posterior groove have no relation to the sinuous line on the scapula, but are completely separated from it*, and this having no special ridge of bone to fix its position, the head of the bone is now at the mercy both of the dislocating force and of the secondary muscular contraction, which latter is limited only by the position of the spine and aeromion.

Proofs that this displacement really does occur are found,—(a) In the altered axis of the arm, which is quite incompatible with any possible mutual relation of the groove and edge; the arm in these cases being usually directed forwards against the chest. (b) In thin individuals especially, the head can be easily felt in its new position. (c) We have already seen that the proper muscles of the shoulder-joint, so long as they remained intact, were the agents by which the groove and sinuous ridge are kept in mutual contact. Now, to permit it to go off the edge (as can be shown in any normal preparation) one or both sets must be destroyed, either lacerated or torn from their insertions. Again, if the displacement is to be in an outward direction, it must be the inner muscular plane, *i.e.*, the subscapularis, which is torn or displaced. Now that this does occur in dislocation backwards, is shown in many recorded cases. 1. In one recorded by Malgaigne (*op. cit.*, p. 537), he says, "the capsule was lacerated behind, and, strange to say (we now do not think it at all strange), the tendon of the subscapularis est décollé de la petite tubérosité, sans doute par sa rencontre avec le rebord glénoïdien." 2. In one of seven years' standing, seen by Sir Astley Cooper, the tendon of the subscapularis was ruptured at its insertion, and the head of the bone lay on the outer border of the glenoid cavity, which it had sensibly depressed, and had itself been flattened at the point of contact. A name such as *extrascapular* or *extrajugal* may be chosen (if an anatomical nomenclature be required at all) to express anatomically the fact which specially underlies all the varieties of position in these rare dislocations,

namely, that by laceration of muscles, the neck of the humerus is now completely separated from—and is to the outside of—that sinuous ridge, which in all the previous varieties had supported it, and limited its possible positions.

As in the preceding cases we found the humerus dislocated backwards with great displacement, there is yet another set of cases which cannot be included under any of our previous heads, and these are by no means very rare, in which the displacement is also very great, but in the opposite direction, forwards and inwards. Of these Malgaigne has collected a very motley group, under the general title of *subclavicular*; but this, in many of the cases, is by no means descriptive of the position. In general, he tells us, in such cases the head of the bone makes an apparent prominence in front, so that the clavicle appears to be carried a little forwards, and the supraclavicular fossa seems to be deepened.¹ Occasionally the head of the bone is under the thickest portion of the great pectoral.² Again, the head of the bone has been found covered by the skin only, having made its way to the surface by separating the deltoid and pectoralis major close to the cephalic vein.³ In another, the head has been even pushed through the integument into the hollow of the armpit.⁴ In other cases the head has been found under the scapula in such a manner as to project the lower extremity of it outwards.⁵ And in yet another, recorded by Pinel and quoted by Malgaigne, the head of the humerus was situated at the inner side of the scapula, between the subscapularis and the upper border of the scapula, only an inch and a half from the sternal end of the clavicle.

I have quoted these few cases, not as an exhaustive *resumé* of all possible positions of the head of the humerus in such abnormal displacements forwards, but merely as illustrations, recorded by authors whose powers of observation are beyond all doubt, of a few of the very various positions in which the head may be found, and they might easily be multiplied almost indefinitely. Yet all such varieties have been classed by Malgaigne under the one head—*subclavicular*, and have been included, in ordinary surgical nomenclature, along with the much more common and far less dangerous cases of dislocation forwards. In my plan of nomenclature all these cases should be classed together, not as by Malgaigne, under a name expressive of a distinct anatomical relation to the clavicle, which they do not all exhibit, but under one which pretends to no more accuracy than that it expresses the one great underlying fact which is common to them all, that the neck has been displaced from the sinuous ridge of the scapula, and this time it is *inwards*.

Anatomical evidence of this is hardly necessary; one point, however, deserves notice. To permit such a displacement, the other set of muscles, namely, the supraspinatus, infraspinatus, and teres

¹ Malgaigne, op. cit., p. 524.

² Hey of Leeds, case 6, p. 312.

³ White of Manchester, vol. i. p. 101.

⁴ Malgaigne, loc. cit.

⁵ Hey, loc. cit.

minor, must be either lacerated or detached. There are comparatively few dissections of such cases recorded, but such lacerations are invariably present. They are well recorded in one of the cases quoted from Hey of Leeds, in which he had obtained a dissection; and at the same place he quotes another case with similar laceration, recorded by Mr Thompson. I propose the name intra-scapular or intrajugal as including all such cases, and yet separating them quite enough for all practical purposes from the more ordinary and less dangerous forms.

These observations are published, and this new system of nomenclature proposed, not from any idea that in ordinary practice, or, in common surgical parlance, any change is required from the time-honoured nomenclature of Cooper, but rather from the feeling that as an anatomical system of nomenclature has been proposed (and no doubt as regards scientific accuracy it has its advantages), the system of Malgaigne and his followers, including Mr Flower's modification, is not satisfactory, being at once redundant and deficient. Besides, I have endeavoured in this paper, and especially in the tabular view of the systems which follows, to bring together and reconcile as far as is possible the different systems, as, from practical experience, I have been made aware of the great difficulties at present in the way of a student in his study of the symptoms and treatment of dislocation at the shoulder-joint, from the transition state in which at present the subject of the nomenclature is, and the consequent apparent discrepancy in statements made by the old and new school even about matters of fact.

In illustration of the preceding remarks, I append a table which exhibits in a condensed form the opinions entertained by previous writers regarding the terms used to designate scapulo-humeral dislocations, together with the nomenclature proposed by myself.

Nomenclature of Scapulo-Humeral Dislocations.

SURGICAL.		ANATOMICAL (founded on Scapular Relations only).		ANATOMICAL (on Scapulo-Humeral Relations).
(Cooper and Syme.)	(Malgaigne.	Flower.)		(The Author.)
Downwards, into axilla.	} Subglenoid.	Subglenoid.		Cervico- scapular. {
Forwards.		} Subcoracoid complete. Subcoracoid incomplete. Intracoracoid.	} Subcoracoid.	
	} Subclavicular.			
Backwards.		} Subacromial. Subspinous.	} Subspinous.	Extrascapular.
	Supracoracoid.			

